IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RE-SUBMISSION OF APPEAL BRIEF

APPLICANTS:	Turner et al.	CONFIRMATION NO. 3107
SERIAL NO.:	10/007,899	GROUP ART UNIT: 2116
FILED:	November 5, 2001	EXAMINER: Tse W. Chen
TITLE:	"ARRANGEMENT FOR THE POWER SUPPLY FOR A SECURITY DOMAIN OF A DEVICE"	

MAIL STOP AF
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

S I R:

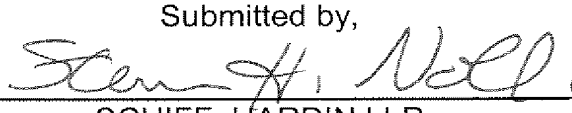
Appellants herewith submit their Appeal Brief, in response to the Notice of Non-Compliant Appeal Brief dated March 14, 2007. That Notice stated that the previously-submitted Appeal Brief did not contain a concise explanation of the subject matter defined in each of the independent claims with reference to the specification by page and line number and to the drawings for each limitation therein. Since the Appeal Brief filed on December 22, 2006 clearly included claim 1 with such designations, the undersigned representative of the Appellants telephoned the Examiner to ascertain the alleged deficiency in the previously-submitted Brief. Appellants' representative was informed that new requirements for Appeal Briefs, which apparently are not published anywhere and therefore are not known to the public, now require substantially only the aforementioned parsed independent claim as the content of the Summary of Claimed Subject Matter section in the Brief.

If there is any location where such specific requirements for contents of the Appeal Brief are publicly available, either the Examiner or the Board of Patent Appeals and Interferences is requested to inform the undersigned representative of

the Appellants. It is arbitrary, capricious and an abuse of administrative procedure and authority for the Board of Patent Appeals and Interferences to have rules for content of the Appeal Brief those are known only within the Patent and Trademark Office, but are not made available to practitioners.

Based on the statements of the Examiner as to the requirements for content of the Appeal Brief, the re-submitted Appeal Brief is believed to be in full compliance with all provisions of 37 C.F.R.§ 41.37.

Submitted by,



(Reg. 28,982)

SCHIFF, HARDIN LLP
CUSTOMER NO. 26574
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Applicants.

CH1\ 4933568.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPELLANTS:	Turner et al.	CONFIRMATION NO. 3107
SERIAL NO.:	10/007,899	GROUP ART UNIT: 2116
FILED:	November 5, 2001	EXAMINER: Tse W. Chen
TITLE:	"ARRANGEMENT FOR THE POWER SUPPLY FOR A SECURITY DOMAIN OF A DEVICE"	

MAIL STOP AF
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPELLANTS' MAIN BRIEF ON APPEAL

S I R:

In accordance with the provisions of 37 C.F.R. §41.37, Appellants herewith submit their main brief in support of the appeal of the above-referenced application.

REAL PARTY IN INTEREST:

The real party in interest is Francotyp-Postalia GmbH, a German corporation, as successor to Francotyp-Postalia AG & Co. KG, assignee of record for the application.

RELATED APPEALS AND INTERFERENCES:

There are no related appeals and no related interferences.

STATUS OF CLAIMS:

Claims 1-3 and 5-14 are at issue in the present appeal. All of these claims were finally rejected in the Office Action dated February 1, 2006. Claim 4 of the application is still pending, and was objected to in that Office Action, and was stated

to be allowable if rewritten in independent form. No other claims were or are present in the application.

STATUS OF AMENDMENTS:

No Amendment was filed subsequent to the Final Rejection.

SUMMARY OF CLAIMED SUBJECT MATTER:

Modern postage meter machines or other devices for franking postal items are equipped with a printer for printing the postage stamp on the postal matter, a controller for controlling the printing and the peripheral components of the postage meter machine, an accounting unit for debiting postage fees that are stored in non-volatile memories, and a unit for cryptographically securing the postage fee data. (p.1, l.16-20) Information that could be used by a postal counterfeiter, such as cryptographic keys and downloaded, electronically stored postage funds, are required by most governmental postal authorities and is contained in a substantially tamper-proof component, commonly known as a postal security device (PSD). If, as is common, the data are stored in a volatile memory, the PSD must be provided with a battery to provide back-up power in the event of a power loss to the PSD, or the postage meter containing the PSD. Because of the requirement to make the PSD tamper-proof, access to the back-up battery therein is extremely difficult, if not impossible. If frequent power outages occur so that the back-up battery in the PSD is frequently required to provide back-up power, this back-up battery becomes drained and must be replaced before the end of its normal lifetime. Since such replacement of the battery (or any component) in the PSD presents the aforementioned problems, there is a need to avoid overuse of the back-up battery in

the PSD so that it, or the PSD containing it, need be replaced only at the end of the normally expected lifetime of the back-up battery.

This is achieved by the electronic device set forth with claims on appeal that has a security region containing a first battery, which supplies power to security components in the security region, and which is connected to a first input of a battery switchover device, also located in the security region. A second battery is disposed in the device outside of the security region and is connected to a second input of the battery switchover device. A monitoring unit monitors voltage information relating at least to the second battery and activates the battery switchover device. (p4, l.9-15)

Independent claim 1 is set forth below with exemplary citations to the figures and specification for the claim elements.

1. An electronic device comprising:

a security region (Reginio, Figs. 1 and 4; and the PSD 100 Fig. 2) containing a plurality of security components, said security region being surrounded by a mechanical security barrier (casting compound 105, Fig. 7, p.17, l.3-5; alt. a sheet metal barrier p.10, l. 1-4) to normally preclude physical access to said security components;

a power source (power pack 3, Fig. 4, p. 11, l. 1-4) adapted for connection to a mains voltage for normally supplying power to said security components;

a first battery (134, Figs. 1 and 4) disposed in said security region with physical access to said first battery also being normally precluded in said security barrier;

a second battery (140, Figs. 1 and 4)disposed outside of said security region for supplying power to said security components upon an outage of said mains voltage;

a battery switchover device (18, Figs. 1 and 4; `80, Fig. 2) having a first input connected to said first battery and a second input connected to said second battery for switching power supply to said security components from said second battery to said first battery only if power from said second battery is absent (p.6, l. 12-14); and

a monitoring unit (21, Figs. 1 and 4) disposed in said security region and connected to said battery switchover device for evaluating voltage information associated with at least one of a voltage of said first battery and a voltage of said second battery.

The provision of a battery compartment in a non-security region of the device housing in combination with a battery switchover device and a monitoring unit offers protection against incorrect polarization, oxidation of the battery contact posts and protection against non-insertion of a second battery in the implementation of a battery replacement. By taking over the supply of the power-consuming components, the second battery lengthens the service life of the first battery. Since battery replacement can be undertaken by a user of the device, the service life of the security module can be significantly increased without requiring the unit to be returned to the manufacturer. Protection against manipulation of the stored data is guaranteed because the provision of the battery compartment does not compromise the security region of the device housing. (p.4, l.18 - p.5, l. 19)

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

The following issues are presented in the present appeal:

Whether the subject matter of claims 1, 5-11 and 14 would have been obvious to a person of ordinary skill in the field of providing back-up power to a tamper-proof component, under the provisions of 35 U.S.C. §103(a), based on the teachings of PCT Application WO 99/.48055 (Naclerio) in view of the teachings of United States Patent No. 5,650,974 (Yoshimura);

Whether the subject matter of claims 2 and 3 would have been obvious to a person of ordinary skill in the field of providing back-up power to a tamper-proof component, under the provisions of 35 U.S.C. §103(a), based on the teachings of Naclerio and Yoshimura, further in view of the teachings of United States Patent No. 6,073,085 (Wiley et al.); and

Whether the subject matter of claims 12 and 13 would have been obvious to a person of ordinary skill in the field of providing back-up power to a tamper-proof component, under the provisions of 35 U.S.C. §103(a), based on the teachings of Naclerio and Yoshimura, further in view of the teachings of United States Patent No. 5,128,552 (Fang et al.).

ARGUMENT:

Rejection of Claims 1, 5-11 and 14 Under 35 U.S.C. §103(a) Based on Naclerio and Yoshimura

The Naclerio reference discloses a tamper-resistant postal security device that addresses the same problem as the claims on appeal, namely extending the life of the internal back-up battery, but the solution disclosed in the Naclerio reference is based on a completely different concept (reducing the amount of data that must be backed up) compared to the subject matter of the claims on appeal (providing an

additional back-up battery outside of the secured region). In general, it is the position of the Appellants that since the Naclerio reference already provides a solution to this problem, a person of ordinary skill in this technology would have no reason to modify the Naclerio reference in order to provide another solution to the problem that is already solved in the Naclerio reference, in a different manner. Since the Naclerio reference teaches a solution to extending the battery life of the internal battery by minimizing the amount of data that must be backed up, and thereby reducing the drain on the internal battery in the event that a back-up is necessary, a person of ordinary skill in this field would consider it superfluous to undertake the additional expense of providing another battery, outside of the security region. If the Naclerio circuit operates as intended, and if the statements therein are assumed to be correct, the drain on the internal battery in the postal security device is already minimized, and therefore "extra" measures for the same purpose would be superfluous.

The same problem discussed above in the present brief, and discussed in Appellants' specification, namely the difficulty associated with replacing the internal battery of a postal security device, is discussed at pages 1-3 of the Naclerio reference. As explained at page 4 of the Naclerio reference, at lines 5-17, the solution to that problem disclosed in the Naclerio reference is to provide the postal security device with a non-volatile memory, which does not depend on battery power, such as an EEPROM, and a non-volatile memory which does depend on battery power, such a static RAM. The sensitive data to be protected in the event of a power loss in the Naclerio reference is an encryption key. When normal power is available to the postal security device, a large RAM such as a dynamic RAM, is

available to store the large amount of data that is decrypted using the encryption key. The memory in which this large amount of data is stored is not backed-up with the internal battery; only the much smaller memory in which the cryptographic key is stored is backed up. Therefore, the drain on the internal battery is significantly reduced if and when a power loss to the postal security device occurs, and the internal battery must be activated.

Therefore, the Naclerio reference, although seeking to solve the same problem as the subject matter of the claims on appeal, proceeds in a completely different direction, both conceptually and in terms of circuitry. The Naclerio reference teaches away from the use of another back-up battery outside of the security device, and instead makes use of a much smaller memory that is backed up by the one and only back-up battery, namely the internal battery in the security device.

This problem is solved in a completely different manner by the subject matter of the claims on appeal by providing a second back-up battery that is located outside of the physical barrier that protects the security module, and therefore this second back-up battery can be easily replaced, as needed. It is this second back-up battery that is normally used as the back-up battery for the components in the security module if an outage of mains voltage occurs. Only if an outage of mains voltage occurs and the second back-up battery itself cannot provide the necessary voltage (due to the second back-up battery itself being drained, or at the end of its lifetime, or simply absent for some reason) does the first back-up battery in the security module become connected to the components in the security module, by the battery switchover device, so as to supply power to those components. Therefore, since it is

normally the second back-up battery, outside of the security region, that is used in the case of power outage of the mains voltage, the lifetime of the first back-up battery in the security module is prolonged, so that the likelihood of only having to replace that first back-up battery at the end of its normal lifetime is increased. Therefore, even if power outages occur relatively often, it is the second back-up battery that is used in those circumstances, which is unproblematical because the second back-up battery can be easily replaced, unlike the first back-up battery in the security region.

The Yoshimura reference discloses A semiconductor memory device with two backup batteries, BAT 1 and BAT2. In applying the disclosure of the Yoshimura patent against the subject matter of claim 1 as a basis for modifying the Naclerio system, the Examiner characterized the Yoshimura memory device as having a "security region" on the basis that BAT2 is normally not accessible for replacement, and thus the Examiner characterized the region in which BAT2 is located in the Yoshimura et al. arrangement as being a "security" region. That term, however, is never used anywhere in Yoshimura reference. The Examiner nevertheless considers BAT2 disclosed in the Yoshimura reference to correspond to the "first battery" of claim 1, and considers BAT1 in the Yoshimura reference to correspond to the "second battery" of claim 1.

The explicit language of claim 1 makes clear that the term "security region" does not mean merely a region that requires electronic back-up, but is a region to which physical access is normally *precluded*, by means of a mechanical security barrier. The mechanical security barrier in claim 1 on appeal is of the type described in the Naclerio reference to preclude tampering. The Examiner equated the

arrangement shown in Figure 5 of the Yoshimura reference as corresponding to the "security" region of claim 1. Although the battery holder shown in Figure 5 of Yoshimura requires some minor manual manipulation in order to replace BAT1, excess is not *precluded*, as required in claim 1, and if access were truly precluded this would destroy the intended operation of the Yoshimura circuit, since it is clearly necessary to replace BAT1 from time-to-time, although admittedly this replacement is intended to be infrequent. The fact that the battery holder or compartment for BAT1 in the Yoshimura reference does not preclude access is clearly described at column 13, line 66 through column 14, line 19 of that reference.

Moreover, the security region that contains the first battery is described at many locations in the present specification as being a postal security device (PSD). Such a postal security device, as described in the Naclerio reference is a device that is well-known to those of ordinary skill in the field of designing franking machines, and must have such a mechanical security barrier that is in compliance with the governmental regulations of the postal authority in the country in which it is used. Almost the entirety of the Naclerio reference is devoted to explaining the high level of anti-tampering structure and circuitry that are present in a PSD. This is evidence of the knowledge possessed by those of ordinary skill in the relevant technology, and is also evidence that the readily (although infrequently) accessible battery holder disclosed in the Yoshimura reference is not a "security" region of the this type. The fact that a particular region in the Yoshimura reference may be infrequently accessed is completely irrelevant as to whether that region constitutes a "security" region.

The mere electronic protection against erasure of data in the Yoshimura reference is not the same as such a mechanical security barrier as set forth in claim 1.

Moreover, both BAT1 and BAT2 in the Yoshimura reference, on which the Examiner relied as corresponding to the first and second batteries of claim 1 of the present application, are disposed in the *same* region of the Yoshimura device. There is no significant difference regarding access to either of the BAT1 or BAT2; either of those batteries can be easily replaced without any difficulty, unlike the first battery in claim 1 of the present application.

The only alleged "link" between the Naclerio and Yoshimura references is that the Examiner contends that the Yoshimura reference has a "security region" as set forth in the claims, and as is present in the Naclerio reference. For the reasons discussed above, the Yoshimura reference does not disclose or suggest a security region that is encompassed by a physical barrier, as is explicitly set forth in claim 1 and is the case in the Naclerio reference. Therefore, there is no basis whatsoever for a person of ordinary skill seeking to solve problems associated with backing up a component that does, in fact, have such a "security region" to consult the Yoshimura reference. Moreover, as noted above, even if such a person did consult the Yoshimura reference, for reasons unknown to the Appellants, a solution comparable to that set forth in claim 1 would not be apparent from that reference because the two batteries in the Yoshimura reference are in the *same* region of the Yoshimura device.

The Federal Circuit stated in *In re Lee* 227 F.3d 1338, 61 U.S.P.Q. 2d 1430 (Fed. Cir. 2002):

> "The factual inquiry whether to combine references must be thorough and searching. ...It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with."

Similarly, quoting *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q. 2d 1225, 1232 (Fed. Cir. 1998), the Federal Circuit in *Brown & Williamson Tobacco Court v. Philip Morris, Inc.*, 229 F.3d 1120, 1124-1125, 56 U.S.P.Q. 2d 1456, 1459 (Fed. Cir. 2000) stated:

> [A] showing of a suggestion, teaching or motivation to combine the prior art references is an 'essential component of an obviousness holding'.

In *In re Dembiczak,* 175 F.3d 994,999, 50 U.S.P.Q. 2d 1614, 1617 (Fed. Cir. 1999) the Federal Circuit stated:

> Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.

Consistently, in *In re Rouffet,* 149 F.3d 1350, 1359, 47 U.S.P.Q. 2d 1453, 1459 (Fed. Cir. 1998), the Federal Circuit stated:

> [E]ven when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill in the art, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.

In *Winner International Royalty Corp. v. Wang,* 200 F.3d 1340, 1348-1349, 53 U.S.P.Q. 2d 1580, 1586 (Fed. Cir. 2000), the Federal Circuit stated:

> Although a reference need not expressly teach that the disclosure contained therein should be combined with another, ... the showing of combinability, in whatever form, must nevertheless be clear and particular.

Lastly, in *Crown Operations International, Ltd. v. Solutia, Inc.*, 289 F.3d 1367, 1376, 62 U.S.P.Q. 2d 1917 (Fed. Cir. 2002), the Federal Circuit stated:

> There must be a teaching or suggestion within the prior art, within the nature of the problem to be solved, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to particular sources, to select particular elements, and to combine them as combined by the inventor.

Appellants respectfully submit the Examiner has not satisfied these rigorous evidentiary standards in substantiating the rejection of claim 1 under 35 U.S.C. §103(a) based on the teachings of Naclerio and Yoshimura.

Claims 5-11 and 14 add further structure to the non-obvious combination of independent claim 1, and are submitted to be patentable over the teachings of Naclerio and Yoshimura for the same reasons discussed above in connection with claim 1.

Rejection of Claims 2 and 3 Under 35 U.S.C. §103(a) based on Naclerio, Yoshimura and Wiley et al.

With regard to claims 2 and 3, the Examiner has acknowledged that Naclerio and Yoshimura do not expressly disclose the use of an analog-to-digital converter for converting voltage information into digital information and the details of the monitoring circuit. The Examiner relied on the Wiley et al. reference as disclosing an electronic unit 50 that includes a monitoring unit that comprises an analog-to-digital converter.

Appellants do not dispute that the Wiley et al. reference, by itself, provides this individual teaching, but Appellants submit there is no guidance, inducement or motivation in any of the Naclerio, Yoshimura or Wiley et al. references to modify a combination of Naclerio and Yoshimura in accordance with this isolating teachings of

Wiley et al. Moreover, claims 2 and 3 depend from independent claim 1 and, as extensively discussed above, the Naclerio and Yoshimura reference fail to disclose or suggest the subject matter of claim 1.

Therefore, claims 2 and 3 would not have been obvious to a person of ordinary skill in the relevant technology under the provisions of 35 U.S.C. §103(a), based on the teachings of Naclerio, Yoshimura and Wiley et al.

Rejection of Claims 12 and 13 Under 35 U.S.C. §103(a) Based on Naclerio, Yoshimura and Fang et al.

The Examiner has acknowledged that the combination of Naclerio and Yoshimura does not disclose details of the processing operations set forth in claims 12 and 13, and the Examiner has relied on the Fang et al. reference as disclosing such details. Appellants acknowledge that the Fang et al. reference teaches evaluating voltage information for determining a need to replace a battery, however, the Fang et al. reference provides no teachings whatsoever regarding the use of multiple batteries, and therefore Appellants do not agree with the Examiner's conclusion that the Fang et al. reference provides any teachings whatsoever to monitor voltage information to determine if and when an unperformed need exists to replace a *second* battery, in the context that the term "second battery" is used in independent claim 1, from which claim 12 depends. The same is true with regard to claim 13.

Therefore, Appellants respectfully submit that none of the Naclerio, Yoshimura or Fang et al. references provides any guidance, motivation or inducement to modify the Naclerio/Yoshimura combination in order to arrive at the subject matter of either of claims 12 or 13.

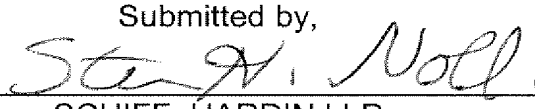
Moreover, for the reasons discussed extensively above, Appellants do not agree that the Naclerio/Yoshimura combination discloses or suggests the combination of independent claim 1, from which claims 12 and 13 depend, and therefore even if the Naclerio/Yoshimura combination were modified in accordance with the teachings of Fang et al., for reasons unknown to the Appellants, the combinations of claims 12 and 13 still would not result.

CONCLUSION:

For the above reasons, Appellants respectfully submit the Examiner is in error in law and in fact in rejecting claims 1-3 and 5-14 on appeal. Reversal of those rejections is proper, and the same is respectfully requested.

Applicants have filed a Request simultaneously herewith to credit the previously-paid fee that accompanied the submission of Applicants' previous Appeal Brief to the filing of the present Appeal Brief.

Submitted by,



(Reg. 28,982)

SCHIFF, HARDIN LLP
CUSTOMER NO. 26574
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Appellants.

CLAIMS APPENDIX

1. An electronic device comprising:

a security region containing a plurality of security components, said security region being surrounded by a mechanical security barrier to normally preclude physical access to said security components;

a power source adapted for connection to a mains voltage for normally supplying power to said security components;

a first battery disposed in said security region with physical access to said first battery also being normally precluded in said security barrier;

a second battery disposed outside of said security region for supplying power to said security components upon an outage of said mains voltage;

a battery switchover device having a first input connected to said first battery and a second input connected to said second battery for switching power supply to said security components from said second battery to said first battery only if power from said second battery is absent; and

a monitoring unit disposed in said security region and connected to said battery switchover device for evaluating voltage information associated with at least one of a voltage of said first battery and a voltage of said second battery.

2. An electronic device as claimed in claim 1 wherein said monitoring unit comprises an analog-to-digital converter for converting said voltage information into digital information.

3. An electronic device as claimed in claim 2 wherein said monitoring unit comprises a processor supplied with said digital information for evaluating said

digital information to generate a signal indicating a supply status representative of said voltage information, and an externally visible indicator connected to said processor for receiving said status signal therefrom and for displaying a visual indication of said supply status.

5. An electronic device as claimed in claim 1 wherein said battery switchover device has an output connected to said security components for supplying power thereto via said battery switchover device from one of said first battery and said second battery, and wherein said device further comprises, in said security region, decoupling elements at said output.

6. An electronic device as claimed in claim 5 wherein said decoupling elements are selected from the group consisting of diodes and controlled electronic switches.

7. An electronic device as claimed in claim 1 further comprising a security module containing said monitoring unit and said security components and protected by said mechanical security barrier.

8. An electronic device as claimed in claim 7 wherein said security module further comprises said battery switchover device.

9. An electronic device as claimed in claim 1 further comprising a battery compartment for said second battery, closeable with a battery compartment cover.

10. An electronic device as claimed in claim 9 having a housing containing said security region and said battery compartment, and having a sidewall in which said battery compartment cover is disposed.

11. An electronic device as claimed in claim 9 having a housing containing said security region and said battery compartment, and having a base in which said battery compartment cover is disposed.

12. An electronic device as claimed in claim 1 further comprising a plurality of operating components, and wherein said monitoring unit includes a processor for evaluating said voltage information, and wherein said processor is connected to at least one of said operating components and alters operation of said at least one of said operating components if said voltage information indicates an unperformed need to replace said second battery.

13. An electronic device as claimed in claim 12 wherein said processor prevents operation of said at least one operating component after a predetermined delay if said voltage information indicates an unperformed need to replace said second battery.

14. An electronic device as claimed in claim 7 wherein said security module is a postal security device.

EVIDENCE APPENDIX

Exhibit A: Drawing sheets with Figs. 1, 2, 3 and 4 -- part of application as originally filed on November 5, 2001.

Exhibit B: PCT Application WO 99/48055 (Naclerio) -- cited in Final Rejection dated February 1, 2006.

Exhibit C: United States Patent No. 5,650,974 (Yoshimura) -- cited in Final Rejection dated February 1, 2006.

Exhibit D: United States Patent No. 6,073,085 (Wiley et al.) -- cited in Final Rejection dated February 1, 2006.

Exhibit E: United States Patent No. 5,128,552 (Fang et al.) cited in Final Rejection dated February 1, 2006.

RELATED PROCEEDINGS APPENDIX

None.

CH1\ 4933549.1